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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,168	12/18/2001	Ralf Dorscheid	DE000234	5133

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
P.O. BOX 3001  
BRIARCLIFF MANOR, NY 10510

EXAMINER

REIS, TRAVIS M

ART UNIT PAPER NUMBER

2859

DATE MAILED: 03/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/023,168	Applicant(s) DORSCHIED ET AL.	
	Examiner Travis M Reis	Art Unit 2859	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 13-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 13-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6-8 & 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wieczorek et al. (U.S. Patent 6292528) in view of Nakajyo et al. (U.S. Patent 6420213).

With reference to claims 1, 2, 4, 6-8, & 12-16, Wieczorek et al. disclose a detector for the detection of electromagnetic radiation, i.e. X-rays (col. 3 line 10), which detector includes a scintillator (11), a CMOS chip (9), and a base element (15), wherein a respective intermediate layer (13) that is defined in respect of its gap width is arranged each time between the scintillator and the CMOS chip and a layer (16) between the CMOS chip and the basic element, wherein said intermediate layers contains an adhesive (13, 16), wherein said adhesive has some quantities applied to the surface of the scintillator that faces the CMOS chip as well as to bumps that are present on the CMOS chip while said adhesive also has some quantities (16) applied directly to the rear surfaces of the CMOS chip and the basic element .

Wieczorek et al. do not disclose the basic element is a ceramic element based on aluminum oxide. However, the particular type of material used to make the basic element, absent any criticality, is only considered to be the use of a " preferred " or " optimum "

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material out of a plurality of well known materials that a person having ordinary skill in the art at the time the invention was made would have find obvious to provide using routine experimentation based, among other things, on the intended use of Applicant's apparatus, i.e., suitability for the intended use of Applicant's apparatus, and since the courts have stated that a selection of a material on the basis of suitability for intended use of an apparatus would be entirely obvious. See In re Leshin, 125 USPQ 416 (CCPA 1960 ).

Wieczorek et al. do not disclose a second epoxy resin adhesive and spacers.

Nakajyo et al. discloses a method for fixing a semiconductor device (1) having stud bumps/spacers (2) to a ceramic substrate (3) by an electrically non-conductive epoxy resin adhesive (7) (col. 6 lines 66-67 through col. 7 line 1) and a electrically conductive adhesive (5) that is well known in the prior art (col. 1 lines 42-65), wherein the gap width is determined by the quantity of adhesive and plurality of spacers (Figures 2 & 4). Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to add the electrically conductive adhesive and stud bumps/spacers disclosed by Nakajyo et al. to the adhesive layers & electric leads, i.e. the layer between the basic element and the CMOS chip; and the layer between the scintillator and the CMOS chip, disclosed by Wieczorek in order to minimize the stretch between electrical leads between the CMOS chip and bond pad by having electrically conduct material directly between the leads.

With reference to claim 3, Wieczorek et al. & Nakajyo et al. do not disclose the adhesive is a fast curing epoxy resin, cyanoacrylate or acrylate adhesive. However, the particular type of material used to make the adhesive, absent any criticality, is only considered to be the use of a " preferred " or " optimum " material out of a plurality of well known materials that a person having ordinary skill in the art at the time the invention was made would have find obvious to provide using routine experimentation based, among other

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things, on the intended use of Applicant's apparatus, i.e., suitability for the intended use of Applicant's apparatus, and since the courts have stated that a selection of a material on the basis of suitability for intended use of an apparatus would be entirely obvious. See In re Leshin, 125 USPQ 416 (CCPA 1960 ).

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wieczorek et al. & Nakajyo et al. as applied to claims 1-4, 6-8, & 12 above, and further in view of Doyle et al. (U.S. Patent 6063688).

Wieczorek et al. & Nakajyo et al. disclose all of the instant claimed invention as stated above in the rejection of claims 1-4, 6-8, & 12 including the spacers can be made of Au, Al, and solder (Nakajyo et al. col. 7 lines 62-64).

Wieczorek et al. & Nakajyo et al. do not disclose the spacer is a wire.

Doyle et al. discloses the fabrication of deer submicron structures and quantum wire transistors using hard-mark transistor width definition, wherein quantum wires are used as spacers for the formation of gaps/trenches in the substrate surface (col. 7 lines 50 & 55-57). Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to replace the stud bumps disclosed by Wieczorek et al. & Nakajyo et al. with wire, as taught by Doyle et al. since the spacers claimed by Applicant and the spacers used by Wieczorek et al. & Nakajyo et al. are well known alternate types of spacers which will perform the same function, if one is replaced with the other, of creating gaps between the dielectric elements.

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-8 & 13-16 have been considered but are moot in view of the new ground(s) of rejection, specifically the disclosure of an addition motivation for the combination of Wieczorek et al. & Nakajyo.

**Conclusion**

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis M Reis whose telephone number is (571) 272-2249. The examiner can normally be reached on 8--5 M--F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for all communications.

Travis M Reis  
Examiner  
Art Unit 2859



Diego Gutierrez  
Supervisory Patent Examiner  
Technology Center 2800

tmr  
March 11, 2004

**CHRISTOPHER W. FULTON**  
**PRIMARY EXAMINER**